D-Link® CORPORATION

DGS-3620-28TC ver. A1

20 10/100/1000Base-T ports + 4 Combo 10/100/1000Base-T/SFP ports + 4 10GE SFP+ ports L3 Stackable Managed Switch

DGS-3620-28TC-DC ver. A1

20 10/100/1000Base-T ports + 4 Combo 10/100/1000Base-T/SFP ports + 4 10GE SFP+ ports with DC power L3 Stackable Managed Switch

DGS-3620-28SC ver. A1

20 SFP ports + 4 Combo SFP/10/100/1000Base-T ports + 4 10GE SFP+ ports L3 Stackable Managed Switch

DGS-3620-28PC ver. A1

20 10/100/1000 PoE+ ports + 4 Combo 10/100/1000Base-T PoE+/SFP ports + 4 10GE SFP+ ports L3 Stackable Managed Switch

DGS-3620-28SC-DC ver. A1

20 SFP ports + 4 Combo 10/100/1000Base-T/SFP ports + 4 10GE SFP+ ports with DC power L3 Stackable Managed Switch

DGS-3620-52T ver. A1

48 10/100/1000Base-T ports + 4 10GE SFP+ ports L3 Stackable Managed Switch

DGS-3620-52P ver. A1

48 10/100/1000Base-T PoE+ ports + 4 10GE SFP+ ports L3 Stackable Managed Switch

External Specification

Version 1.02

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DGS-3620 Series Specification Revision History

Version	Revised Date	Person Name	Content Revised
1.00	2011/2/20	Stanley Chen/ Stephen Tseng	First Edition
1.01	2011/3/16	Stanley Chen	Add GS Certificate/Report or LVD for Safety Certificates and Test Reports
1.02	2011/3/17	Stanley Chen/ Stephen Tseng	To modify the description of FAN spec.

Product Descriptions:

DGS-3620 series is the Layer 3 members of D-Link xStack product line. The DGS-3620-28TC/28TC-DC/28PC/52T /52P provide 24/48 10/100/1000Mbps Gigabit Ethernet ports, 4 combo SFP ports (28TC/28TC-DC/28PC) and 4 10G SPF+ ports. 10/100/1000Mbps Gigabit Ethernet ports allow you to connect to other LAN switches, or directly connect to the power users with Gigabit access. The 4 combo Gigabit ports provide flexibility on the port type for customers. 10GE SFP+ ports provide fiber uplinks for inter-device connection. With 24 SFP ports, DGS-3620-28SC/28SC-DC provide a full fiber environment for long distance Ethernet infrastructure, suitable for the FTTx and MAN (Metropolitan Area Network) deployment.

The DGS-3620 series provides dual-propose uplink/stacking 10GE SFP+ ports for advanced network architecture. Up to 4 10G ports can be aggregated as uplink ports that allow maximum 40G backbone bandwidth. In addition, 2 of the 4 10G SFP+ ports can act as stacking ports, providing up to 40G stacking bandwidth per stacking member. Up to 12 units can be physically stacked. The DGS-3620 series also support Virtual Stacking that allows it to virtually stack with other D-Link switches, providing Single IP Management for small business.

With the latest technology, DGS-3620 series Switches provide advanced L3 features including IPv4/v6 routing, QoS and ACL filtering. Packet routing and protocol filtering/inspection make the Switch act even as the Layer 4 switches.

The DGS-3620 series also offers comprehensive IPv6 support, including IPv6 Tunnel, ICMPv6, IPv6 Neighbor Discovery (ND), DHCPv6, RIPng and OSPFv3. It also passed IPv6 Ready Logo Phase II.

Product Specifications:

1. Hardware Specifications

General Features	Detailed Description
Dimension	- 19-inch, 1U Rack-mount size - Support Wall-mount **DGS-3620-28PC/52T/52P** - 441mm x 380mm x 44mm **DGS-3620-28TC/28SC/28TC-DC/28SC-DC** - 441mm x 310mm x 44mm
Weight	DGS-3620-28TC: 4.15kg DGS-3620-28TC-DC: 4.15kg DGS-3620-28SC: 4.10kg DGS-3620-28SC-DC: 4.10kg DGS-3620-28PC: 5.76kg DGS-3620-52T: 5.13kg DGS-3620-52P: 6.30kg
Operation Temperature	0-50°C
Storage Temperature	-40-70°C
Operation Humidity	10%-90% RH
Storage Humidity	5% ~ 90% RH
Power Consumption	DGS-3620-28TC: 50.8W DGS-3620-28TC-DC: 51.5W DGS-3620-28SC: 60.2W DGS-3620-28SC-DC: 65.5W DGS-3620-28PC: 478.0W DGS-3620-52T: 81.0W DGS-3620-52P: 505.4W
Maximum Heat Dispassion	DGS-3620-28TC: 173.2 BTU/hr DGS-3620-28TC-DC: 175.6 BTU/hr DGS-3620-28SC: 205.3 BTU/hr DGS-3620-28SC-DC: 223.4 BTU/hr DGS-3620-28PC: 1630 BTU/hr DGS-3620-52T: 276.2 BTU/hr DGS-3620-52P: 1723.4 BTU/hr
Acoustic	**DGS-3620-28TC:** Operation Temperature at: ~30°C: < 38.7dB 30°C~: < 46.5dB **DGS-3620-28TC-DC:** Operation Temperature at: ~30°C: < 38.7dB 30°C~: < 46.5dB **DGS-3620-28SC:** Operation Temperature at: ~30°C: < 38.9dB 30°C~: < 46.2dB **DGS-3620-28SC-DC:** Operation Temperature at: ~30°C: < 38.9dB 30°C~: < 46.2dB **DGS-3620-28PC:**

	Operation Temperature at: ~30°C: < 40.3dB 30°C~: < 52.5dB **DGS-3620-52T:** Operation Temperature at: ~30°C: < 40.6dB 30°C~: < 51.1dB **DGS-3620-52P:** Operation Temperature at: ~30°C: < 43.2dB 30°C~: < 54.8dB
MTBF	DGS-3620-28TC: 287763.2892 Hours DGS-3620-28TC-DC: 372899.3973 Hours DGS-3620-28SC: 299801.4971 Hours DGS-3620-28SC-DC: 393367.7595 Hours DGS-3620-28PC: 230619.6475 Hours DGS-3620-52T: 255608.808 Hours DGS-3620-52P: 202462.1368 Hours
Performance	
Switching Capacity	DGS-3620-28TC/ 28TC-DC: 128Gbps DGS-3620-28SC/ 28SC-DC: 128Gbps DGS-3620-28PC: 128Gbps DGS-3620-52T: 176Gbps DGS-3620-52P: 176Gbps
Max. Forwarding Rate	DGS-3620-28TC/ 28TC-DC: 95.24Mpps DGS-3620-28SC/ 28SC-DC: 95.24Mpps DGS-3620-28PC: 95.24Mpps DGS-3620-52T: 130.95Mpps DGS-3620-52P: 130.95Mpps
Forwarding mode	Store and Forward
Key Components	
SDRAM for CPU	DDR 256M bytes/32bit
Flash Memory	128Mbytes **NOR** flash External **SD card** memory
Packet Buffer memory	2Mbytes
Battery	On-board Golden Capacitor provides Real Time Clock (RTC) function which maintains the local time settings when the device power is off.
FAN	- Fans are capable to adjust speed based on system temperature detected by the IC sensor.
Power Features	
Power Supply	AC input for DGS-3620-28TC/28SC/28PC/52T/52C 1. 100-240 VAC, 50/60Hz 2. Internal universal power supply DC input for DGS-3620-28TC-DC/28SC-DC 3. -36Vdc ~ -72Vdc 4. Internal universal power supply
External RPS Support	1. Provide one connector in rear panel to install optional external RPS to enhance the reliability. When internal power fails, the optional external RPS will take over all the power immediately and automatically. 2. Support hot-swap function for RPS 3. RPS Support - DPS-500 (For DGS-3620)

	- DPS-700 (For DGS-3620-28PC/52P) DGS-3620-28TC-DC/28SC-DC do not support RPS
Port Functions	
Console Port	A RJ-45 console port for out-of-band configuration of the software features. Default baud rate: 115,200bps
Out-of-band Management Port (OOB Port)	A 10/100 RJ-45 Ethernet OOB management port for IP-based out-of-band telnet, Web or SNMP management
Alarm Port *	1. An alarm connector in the rear panel that provides 2 input circuits for external event detection and 1 output circuit for alarm action 2. Switch will send out traps, logs and trigger the output alarm when two pins are shorted among the input pair 3. Output alarm circuit support - 42 Vac, 50 Hz, 1A max - 60 Vdc, 1A max 4. Support configurable logs and traps for external alarms, up to128 characters user defined warning message can be inserted
Ethernet Ports	**DGS-3620-28TC/-28TC-DC:** - 24 10/100/1000Base-T with 4 combo SFP and 4 SFP+ ports **DGS-3620-28SC/-28SC-DC:** - 24 SFP ports with 4 combo 10/100/1000Base-T and 4 SFP+ ports **DGS-3620-28PC:** - 24 10/100/1000 POE Base-T with 4 combo SFP and 4 SFP+ ports **DGS-3620-52T:** - 48 10/100/1000 Base-T and 4 SFP+ ports **DGS-3620-52P:** - 48 10/100/1000 POE Base-T and 4 SFP+ ports **10/100/1000Base-T ports comply with following standards:** - IEEE 802.3 compliance - IEEE 802.3u compliance - Support Full-Duplex operations - IEEE 802.3x Flow Control support for Full-Duplex mode - IEEE 802.3ab compliance - IEEE 802.3af compliance (DGS-3620-28PC & DGS-3620-52P only) - IEEE 802.3at compliance (DGS-3620-28PC & DGS-3620-52P only) **SFP ports comply with following standards:** - IEEE 802.3z compliance - IEEE 802.3u compliance (Firmware R2 support) **Supported SFP Transceivers:** - DEM-310GT (1000Base-LX, Single-mode, 10km) - DEM-311GT (1000ase-SX, Mutli-mode, 500m) - DEM-312GT2 (1000Base-SX, Multi-mode, 2km) - DEM-314GT (1000BASE-LX, Single-mode, 50km) - DEM-315GT (1000BASE-LX, Single-mode, 80km) - DGS-712 (1000BASE-TX) - DEM-330T/R (1000BASE-BX, WDM transceiver, Single-Mode 10km) - DEM-331T/R (1000BASE-BX, WDM transceiver, Single-Mode 40km) - DEM-210 (100Base-FX, Single-mode, 15km) * - DEM-211 (100Base-FX, Multi-mode, 2km) * - DEM-220T (100Base-BX, Wavelength Tx:1550nm, Rx:1310nm, Single-mode, 20km) * - DEM-220R (100Base-BX, Wavelength Tx:1310nm, Rx:1550nm, Single-mode, 20km) *

	SFP+ ports comply with following standards: - IEEE 802.3ae compliance - IEEE 802.3aq compliance **Supported SFP+ Transceivers:** - DEM-431XT: 10GBASE-SR SFP+ Transceiver (w/o DDM), 80m: OM1 & OM2 MMF,300m: OM3 MMF - DEM-431XT-DD: 10GBASE-SR SFP+ Transceiver (with DDM), 80m: OM1 & OM2 MMF, 300m: OM3 MMF - DEM-432XT: 10GBASE-LR SFP+ Transceiver (w/o DDM), 10km - DEM-432XT-DD: 10GBASE-LR SFP+ Transceiver (with DDM), 10km - DEM-433XT: 10GBASE-ER SFP+ Transceiver (w/o DDM), 40km - DEM-433XT-DD: 10GBASE-ER SFP+ Transceiver (with DDM), 40km - DEM-435XT: 10GBASE-LRM SFP+ Transceiver (w/o DDM), 220m: OM1 & OM2 MMF, 300m: OM3 MMF - DEM-435XT-DD: 10GBASE-LRM SFP+ Transceiver (with DDM), 220m: OM1 & OM2 MMF, 300m: OM3 MMF - DEM-436XT-BXU: 10GBASE-LR BiDi SFP+ Transceiver (w/o DDM) 20km, TX: 1270nm, RX: 1330nm - DEM-436XT-BXD: 10GBASE-LR BiDi SFP+ Transceiver (w/o DDM) 20km, TX: 1330nm, RX: 1270nm - DEM-310GT (1000Base-LX, Single-mode, 10km) - DEM-311GT (1000ase-SX, Multi-mode, 500m) - DEM-312GT2 (1000Base-SX, Multi-mode, 2km) - DEM-314GT (1000BASE-LH, Single-mode, 50km) - DEM-315GT (1000BASE-ZX, Single-mode, 80km) - DEM-330T/R (WDM transceiver, Single-Mode 10km) - DEM-331T/R (WDM transceiver, Single-Mode 40km) **Supported SFP+ Direct Attached Cables**: Direct Attached Cable is a cable with built-in SFP+ transceivers at both ends - DEM-CB100S: 10-GbE SFP+ 1m Direct Attach Cable - DEM-CB300S: 10-GbE SFP+ 3m Direct Attach Cable - DEM-CB700S: 10-GbE SFP+ 7m Direct Attach Cable
Stacking Ports	2 SFP+ ports among the 4 SFP+ ports are dual-purpose for either physical stacking or uplink
PoE Capability (DGS-3620-28PC & DGS-3620-52P)	
PoE Specification	1. Compliant with IEEE 802.3af/802.3at PoE standards. 2. Supplies power to PD device up to 15.4W per port (802.3af) or 30W+ per port (802.3at) 3. Power Budget: 370W 4. Auto discovery: automatically discovers the connection of PD device and immediately sends power to it

5. Active circuit protection: automatically disables the port if there is a short or the port current is over 600mA
6. Provide power following the classification below

Class	Usage	Max power sent by PSE
0	Default	15.4W
1	Optional	4.0W
2	Optional	7.0W
3	Optional	15.4W
4	Reserved	31.8W

Class	Usage	Max power received by PD
0	Default	13.0W
1	Optional	3.84W
2	Optional	6.49W
3	Optional	13.0W
4	Reserved	25.5W

7. Follow the standard PSE pin-out standard of Alternative A, which sends power over number 1,2,3,6 pins of 8 wires of CAT3 ~ 6A UTP cable for 802.3af or CAT5e~ 6A UTP cable for 802.3at
8. DGS-3620-28PC, DGS-3620-52P work with all D-Link 802.3af and 802.3at capable devices, and work with all non-802.3af and non-802.3at capable D-Link AP, IP Cam and IP phone via DWL-P50.

* To be supported via future firmware release.

2. Software Features

2.1 Standard Image

Feature	Detailed Description	Standard	Release Schedule
Stackability			
Virtual Stacking	1. Support D-Link Single IP Management v1.61 2. Use a single IP to manage the virtual stack with up to 32 D-Link xStack devices		FCS
Physical Stacking	1. Via the SFP+ stacking ports to provide bi-directional redundant stacking topology 2. Topology: Linear/Ring 3. Bandwidth: Up to 40G (full duplex) 4. Support up to 12 units per stack 5. Support backup master 6. Allows Link Aggregation or mirroring to span across multiple units of the stack		FCS
L2 Features			
MAC Address	1. 32K MAC Address Table 2. Support 256 static MACs		FCS
Flow Control	1. 802.3x when Full Duplex 2. Back Pressure when Half Duplex 3. Head-of-line blocking prevention		FCS
Jumbo Frame	Up to 13Kbytes		FCS

Spanning Tree	1. Support 802.1D 2004 STP/RSTP; 2. Support 802.1Q 2005 MSTP 3. Support MSTP with maximum **64** MSTP Instances 4. Support per port / per device BPDU filtering 5. Support 802.1D STP 2004 edition 6. Support Root Restriction(defined in 802.1Q-2005) 7. Support edge port in STP/RSTP/MSTP mode 8. Support forwarding BPDU when STP function is disabled 9. Support optional destination address (Bridge Group Address/Provider Bridge Group Address) on Service Provider network 10. Support external debug command 11. Support per-port MAC: the source address field of MAC frames conveying BPDUs supported by the Bridge conveys the individual MAC Address for the Bridge Port through which the PDU is transmitted.		FCS
Loopback Detection (LBD)	- D-Link LBD v4.0 - STP independent - Support per port/per VLAN shutdown		FCS
Link Aggregation	1. Comply with 802.1AX and 802.3ad 2. Support max 32 groups per device, max 8 Gigabit or 10G ports per group 3. High availability LACP to prevent single or multiple port failure in an aggregation channel. 4. Support following load sharing mechanism - Source MAC - Destination MAC - Source MAC + Destination MAC - Source IP - Destination IP - Source IP + Destination IP 5. Support cross-stack trunk	IEEE 802.3ad, IEEE 802.3AX	FCS
Mirroring	1. Support Mirroring for Tx/Rx/Both 2. Mirroring support following mode - One-to-one mode - Many-to-one mode - Per flow mode - RSPAN 3. Multiple-session mirroring (up to 4 mirror target ports including RSPAN. The source port for each target port can not be overlapped) 4. Support cross-stack mirroring		FCS
L2 Protocol Tunneling	Support tunnels for the following protocols across the service provider's networks - GVRP - STP - Protocol MAC Type: 01000CCCCCCC, 01000CCCCCCD		FCS
ERPS (Ethernet Ring Protection Switching)	1. Best case supports 50ms recovery time in a 16-node ring structure with the circumference less than 1,200 Km 2. Support multiple ring topology, maximum **2** rings inter-connected via a shared link 3. Support 26 single rings in DGS-3620-52T/52P and 14 single rings in DGS-3620-28TC/SC/PC 4. Supported by hardware that accelerates the recovery time	ITU-T G.8032	FCS
VLAN			

802.1Q	Support 802.1Q 2005 edition		FCS
802.1v	1. Be able to configure the untagged port of different protocols on the same physical port 2. Be able to configure 802.1Q and 802.1v untagged port on same physical port 3. Support multiple VLANs for each protocol 4. Support VLAN classification based on EtherType		FCS
VLAN Group	1. Total 4K VLAN groups; 2. Max. 4K static/ 255 dynamic VLAN groups; 3. Configurable vid from 1~4094		FCS
Port-based VLAN	1.Support VLAN tagging based on PVID 2.Support VLAN classification based on default port priority		FCS
GVRP	1. Support **256** dynamic VLANs 2. GVRP advertisement on both dynamic and static VLANs 3. GVRP can be enabled/disabled by per port/VLAN/system basis		FCS
MAC-based VLAN	Support 1024 entries		FCS
VLAN Trunking	Allow a physical network interface to carry and pass multiple tagged VLAN traffics so different VLAN information can be exchanged between switches		FCS
Asymmetric VLAN			FCS
ISM VLAN	1. Support up to 5 dedicated ISM VLANs 2. Be able to filter unknown multicast packets per ISM VLAN 3. Support tagged and untagged members while the port still belongs to: - Port-based VLAN - 802.1Q VLAN whose VID is different from ISM VLAN 4. The IGMP snooping function in ISM VLAN is independent from global IGMP snooping 5. Support IGMP v1/v2/v3 and MLD v1/v2 6. Support up to 80 ISM profiles per system, each ISM VLAN can bind up to 16 profiles 7. Each ISM profile can support up to 32 address ranges 8. Source ports can be untagged 9.Support the modification of ISM VLAN's priority level for better traffic control 10.Support the configuration of two ISM VLAN source ports on the switch. When working with STP , it will allow the forwarding of multicast stream using backup link in case the primary link goes down		FCS
Private VLAN			FCS
Subnet-based VLAN	1. Support 256 entries 2. Support VLAN classification based on - Source IP and subnet mask 3. Support IPv4/v6 Source IP		FCS
Super VLAN			FCS
Voice-VLAN	1. Identify the voice VLAN by MAC address 2. Identify the voice VLAN by LLDP-MED		FCS

Q in Q	1. Port-based Q in Q 2. Add SVLAN tag to either untagged or single tagged packets and generate double tagged packets 3. Support Selective Q-in-Q. Add SVLAN tag based on - PVID (for untagged packets only) - CVLAN tag 4. Support untagged / single tagged / double tagged at same physical port UNI Port: ■ For packets ingress from UNI port, the packet can be untagged, or CVLAN tagged ■ Based on user configuration, SVLAN tag can be added to the packet, or CVLAN tag be replaced with SVLAN tag ■ The learning and forwarding is based on SVLAN. NNI Port: ■ For packets ingress from NNI, it can be untagged, or single SVLAN tagged, or double tags. The switch's learning and forwarding is based on SVLAN. (CVLAN tag is identified by CVALN TPID. SVLAN tag is identified by SVLAN TPID.) 5. Per port configurable SVLAN TPID 6. Support up to 4 SVLAN TPID (Per port & per system) 7. Per system configurable CVLAN TPID		FCS
802.1ak (MRP)			R2
D-Link Intelligent Port Management (IPM)	1. Automatically detect device type and assign associated device policies simultaneously 2. Device policies include several applications such as VoIP, Surveillance, and Storage		R2
L2 Multicasting			
L2 Multicast Filtering	Support L2 multicast filtering modes as below - Forward all groups - Forward all unregistered groups - Filter all unregistered groups		FCS
IGMP Snooping	1. Support IGMP snooping v1, v2, v3 2. 1K IGMP snooping groups; 3. Support 64 static multicast addresses; 4. Can configure a port as a static router port, or can forbid a port to be learnt as a router port. 5. Per VLAN IGMP Snooping 8. Support Host-based IGMP Fast Leave 9. IGMP Snooping Report Suppression: When IGMP report suppression is enabled, the switch sends the first IGMP report from all hosts for a group to all the multicast routers. The switch does NOT send remaining IGMP reports for the group to the multicast routers. This feature prevents duplicate reports from being sent to the multicast devices. 10. Support IGMP messages rate limit per port / per VLAN 11. Support snooping counter 13. Support snooping switches (RFC4541)	RFC2236, 3376, 4541	FCS

MLD snooping	1. 1K MLD snooping groups; 2. Support 64 static multicast addresses; 3. Can configure a port as a static router port, or can forbid a port to be learnt as a router port. 4. Per VLAN MLD Snooping 5. Support L2 multicast filtering modes as below - Forward all groups - Forward all unregistered groups - Filter all unregistered groups 6. Support MLD v2 snooping 7. Support host-based MLD fast leave 8. Support MLD messages rate limit per port / per VLAN 9. Support snooping counter 10. Support snooping switches(RFC 4541)		FCS
L3 Features			
IP Interface	1. Support 256 IP interfaces 2. Support max 256 IP interfaces per VLAN 3. Support IPv4 address 0.0.0.0 to prevent the switch from occupying an IP address in the network.		FCS
Loopback Interface	Support 8 IPv4/v6 interfaces		FCS
Null Interface			FCS
ARP	1. Max 8 ARP entries 2. Support 256 static ARP 3. Support Gratuitous ARP		FCS
ARP Proxy	1. Support ARP Proxy between different subnets 2. Support Local ARP Proxy in the same subnet	RFC1072	FCS
VRRP	1. Owner / non-owner ping response 2. Support text authentication	RFC2338	FCS
IPv6 Ready Phase 2	IPv6 Ready Logo Phase 2 compliant		FCS
L3 Routing			
Routing Table Size	1. Total 12K routing entries shared by IPv4/6 - Max 12K entries for IPv4 dynamic route - Max 6K entries for IPv6 dynamic route		FCS
L3 Forwarding Table Size	1. Total 8K L3 H/W forwarding entries shared by IPv4/v6 - Max 8K IPv4 entries - Max 4K IPv6 entries		FCS
Static Route	1. Total 256 entries shared by IPv4/v6 - Max 256 IPv4 entries - Max 128 IPv6 entries 2. Secondary static route 3. Equal Cost / Weighted Cost multi-path route 4 Support route redistribution		FCS
Default Route	1. Support IPv4/v6 secondary default route 2. Support Equal Cost / Weighted Cost multi-path route 3. Support route redistribution		FCS
RIP	Support RIP v1/v2		FCS

OSPF	1. OSPF v2 2. OSPF Passive Interface 3. OSPF NSSA (Not So Stubby Area) 4. Support 16 OSPF areas 5. OSPF Equal Cost Multi-Path route 6. Support 512 OSPF Equal Cost Multi-Path routes, up to 4 paths per destination. 7. Support OSPF announcement via loopback interface 8. Support the advertisement of default route into OSPF without the need to manually redistribute static route		FCS
Policy Based Route	Based on ACL		FCS
IP Directed Broadcast	Support enable/disable of IP directed-broadcast function		FCS
Multi Path Routing	1. Support both Equal Cost (EC) and Weighted Cost (WC) 2. Max 32 static multi path routes, 4 paths per destination		FCS
BFD(Bidirectional Forwarding Detection)	1. Support OSPF 2. Support VRRP		TBD
L3 Multicasting			
Multicast table size	2K Multicast Groups. Both static multicast groups and dynamic multicast groups share these entries. - Max 64 IGMP static multicast groups - Max 2K dynamic multicast groups		FCS
IGMP v1/v2/v3	1. Max dynamic IGMP groups: 4096 2. Max source record number: 4096 3. Max static IGMP groups:1K		FCS
MLD	1. Support v1/v2 2. Max dynamic MLD groups: 2048 3. Max source record number: 2048		FCS
IGMP/MLD Proxy	1. Can enable IGMP Proxy per-VLAN basis - configure upstream VLAN - configure downstream VLAN 2. Support max.128 downstream IGMP proxy groups and 32 downstream MLD proxy groups	RFC1112, 2236, 4605	FCS
Limited IP Multicast (IGMP Filtering)	1. Filter IGMP join packets 2. Support port based filtering 3. Support up to 60 profiles and each profile can add up to 32 multicast groups. 4. Configurable max. number of multicast groups that a port can join, ranging from 1~1K 5. Support replace and drop action while group number per port/vlan exceeds max mcast groups		FCS
Multicast Duplication	Hardware packet replication up to 32 VLANs per group		FCS
Static IP Multicast Route			FCS
PIM DM	Support IPv4 1. Max PIM-DM neighbor: 100 2. IPMC cache table size: 2048 (share with DVMRP)		FCS

PIM SM	**Support IPv4:** 1. Max PIM-SM neighbor: 100 2. PIM-SM multicast routing table size: 4096 (max to 2048 different groups) 3. CRP table size: 40 4. Static RP table size: 20 5. RP address table size: 40		FCS
PIM-SSM	Support IPv4		FCS
PIM Sparse-Dense Mode	Support IPv4		FCS
QoS(Quality of Service)			
802.1p support			FCS
Number of Queues	8 Queues per port		FCS
Queue handling	Support following modes - Strict - Weighted Round Robin(WRR)		FCS
Class of Service	Be able to classify packets according to follow contents: - 802.1p priority - VLAN - MAC address - Ether type - IP address - DSCP - Protocol type - TCP/UDP port number - IPv6 Traffic Class - IPv6 flow label - User defined packet content	RFC2475, 2598	FCS
QoS Flow Actions	Support following actions for flows - Remark 802.1p priority tag - Remark TOS/DSCP tag - Bandwidth Control		FCS
Three Color Marker	1. Support Two Rate Three Color Marker (trTCM) - CIR/PIR minimum granularity: kbps - Support CBS/PBS 2. Support single rate three color marker (srTCM) - CIR minimum granularity: 1kbps - Support CBS/EBS	RFC2697, RFC2698	FCS
Bandwidth Control	1. Support Port and Flow based bandwidth control 2. Minimum granularity 64Kbps		FCS
Time-based QoS	Support up to **64** time range profiles		FCS
ACL(Access Control List)			
Maximum Mask/Profiles	Ingress ACL: support **6** profiles and **256** rules per profile Egress ACL: support **4** profiles and **128** rules per profile		FCS

ACL Policy	ACL policy supports following packet contents: - 802.1p priority - VLAN - MAC address - Ether type - IP address - DSCP - Protocol type - TCP/UDP port number - IPv6 Traffic Class - IPv6 flow label - User defined packet content		FCS
Time Based ACL	Support up to **64** time range profiles		FCS
ACL Statistics			FCS
CPU interface filtering	Max **5** profiles, **100** rules		FCS
Security			
SSH v2	1. Support SSH v2 2. Support IPv4/v6 access 3. Support user selectable port number other than default port 22		FCS
SSL	1. Support v1/v2/v3 2. Support IPv4/v6 access		FCS
Port Security	1. Support **64** MACs per port		FCS
Broadcast/Multicast/Unicast Storm Control	1. Allow specifying the threshold in terms of pkt/s for per port. Min granularity: 1pkt/s 2. Be able to set up a storm threshold. When broadcast / multicast /unknown unicast traffic hit the defined threshold, the switch will start blocking or discarding packets which would otherwise 'flood' the network. The blocked port will be activated again only when the broadcast/ multicast/ unknown unicast traffic falls below the defined threshold. 3. Allows the configuration of recovery timer for shutdown ports		FCS
Traffic Segmentation			FCS
D-Link Safeguard Engine	1. System will send out trap and log when CPU utilization hit the definable threshold 2. Protect CPU from Broadcast / Multicast / Unicast flooding 3. Protect CPU from protocol control packet attacks		FCS
BPDU Attack Protection	Switch has 3 options when a port receives BPDU packet: Drop BPDU packets, drop all packets, or shutdown port		FCS
ARP Spoofing Prevention			FCS
IP-MAC-Port Binding	1. Support D-Link IMPB v.3.9 2. Support 500 address binding entries per device 3. ARP Inspection 4. IP Inspection (IPv4/v6) 5. Support IPv4/v6 DHCP Snooping 6. Support IPv6 ND Snooping 7. Support IMPB debug command in CLI mode		FCS
NetBIOS/NetBEUI filtering	Support IP & non-IP (802.3) modes (Default: IP mode)		FCS
DHCP Server Screening	Support log/trap triggering when receiving any illegal DHCP server packet		FCS

DHCP client filtering			FCS
MAC Blackhole			R2
Secure FTP			R2
DoS Attack Prevention			R2
AAA			
802.1X	1. Support local/RADIUS database 2. Support Port-based Access Control 3. Support Host-based Access Control - Maximum 448 MACs per port/per system 4. Be able to configure 802.1X packet transparent / filtering when 802.1X is disable 5. Support EAP, OTP, TLS, TTLS and PEAP 6. Support MD5 authentication 7. Support 802.1x session timeout attribute 8. Identity driven policy assignment: - Can assign VLAN, ingress/egress bandwidth control, ACL and 802.1p default priority to the port based on the attributes dispatched from the RADIUS server. - Support 802.1x extension: "Assign user priority/bandwidth based on MAC" 9. Support "RFC3580 tag1/2 format" (compatible with Cisco ACS server) 10. Support per-VLAN authentication in order to support client roaming 11. Can relay Radius reply message to the client	RFC3580	FCS
Web-based Access Control	1. Support local/RADIUS database - Maximum 16 MACs per port when using local database - Maximum 16 MACs per device when using local database - Maximum 4000 MACs per port when using RADIUS database - Maximum 4000 MACs per device when using RADIUS database 2. Support logout and logout timer functions 3. Support Port-based authentication 4. Support Host-based authentication 5. Identity driven policy assignment: Can assign VLAN, ingress/egress bandwidth control, ACL and 802.1p default priority to the port according to the attributes dispatched from RADIUS server. 6. Support HTTPS 7. Detailed port auth_state description 8. Support default redirect Web page. 9. Support per-VLAN authentication in order to support client roaming. 10. Support IPv4/v6 address		FCS

MAC-based Access Control	1. Support local/RADIUS database - Maximum 1024 MACs per port when using local database - Maximum 1024 MACs per device when using local database - Maximum 4000 MACs per port when using RADIUS database - Maximum 4000 MACs per device when using RADIUS database 2. Support Port-based authentication 3. Support Host-based authentication 4. Identity driven policy assignment which can base on the attributes dispatched from the RADIUS server: a. Assign ingress/egress bandwidth control, ACL and 802.1p default priority to the port b. Assign VLAN to the port or user		FCS
JWAC	1. Support Q-server (NTT and OKI authentication server) - It includes authentication, quarantine, and access management 2. Support Dynamic VLAN assignment 3. Support Radius server failover to local user Database 4. Support ACL assignment after successful authentication 5. Supports FQDN URL for JWAC redirect page 6. Show IP address and user ID in web GUI and log 7. Support authentication page elements customization. 8. Support Compound Authentication. 9. Support per-VLAN authentication. 10. Support roaming. 11. Max on-line clients(the user who finished authentication, blocked and authenticating): - 4000 per port - 4000 per device - 4000 per system 12. Max concurrent authentication sessions(the users who are authenticating): - 50 per port(configurable)		FCS
Microsoft® NAP Support	1. Support Microsoft NAP function via 802.1X guest VLAN 2. Support 802.1X NAP 3. Support DHCP NAP		FCS
Guest VLAN	Port-based guest VLAN Support following authentication method - 802.1X - Web-based Access Control (Only in Compound Authentication mode) - MAC-based Access Control		FCS
User Account Privilege for Mgm Access	Support 4 level user account - User: allowed to execute 'show' and some troubleshooting commands (like ping) - Power user: allowed to execute all commands except the ones related to account management and service (telnet/SSH/Web/SNMP/RMON/sFlow etc.) enablement/disablement - Operator: allowed to execute all commands except the ones related to account management - Administrator: can execute all switch commands.		FCS

RADIUS Auth. for Mgmt Access		RFC2138, 2139, 2865, 2866, 2618	FCS
TACACS+ Auth. for Mgmt Access		RFC1492	FCS
Support Zone Defense technology			FCS
RADIUS Accounting	1. Support Network accounting (for 802.1x user) 2. Support EXEC accounting (for Mgm Access) 3. Support System accounting (for Mgm Access)		FCS
Compound Authentication	1. OR: enable any of the authentication (802.1X/MAC/JWAC/WAC) on a port, client only needs to pass any authentication to gain access 2. AND:Support following authentication criteria - dot1X_IMPB: must pass 802.1X(first) & IMPB - IMPB_JWAC: must pass IMPB(first) & JWAC - IMPB_WAC: must pass IMPB(first) & WAC - MAC_IMPB: must pass MAC(first) & IMPB		FCS
Authentication Database failover	Allows to configure the switch to check local database or bypass authentication when configured RADIUS server fails - Support WAC, JWAC, 802.1X, MAC, Compound authentication		
Management			
Single IP Management	Support D-Link SIM v1.61		FCS
LLDP			FCS
LLDP-MED			FCS
Web-based GUI	1. Compatible with following browsers - IE5.5 or later version - Netscape - Mozilla - Firefox 2. Support IPv4/v6	RFC2068	FCS
CLI			FCS
ZModem			FCS
Telnet Server	Support IPv4/v6	RFC854	FCS
Telnet Client	Support IPv4/v6		FCS
TFTP client	Support IPv4/v6	RFC783	FCS
SNMP v1/v2c/v3		RFC1157, RFC1901, RFC1908, RFC2570, RFC2575	FCS

SNMP Trap	Supports following Trap events - New MAC Notification - Power and fan errors - Cold / Hot start-up - Link state change - STP state change: support port STP state change. (ex. Forwarding->blocking) - SNMP authentication failure - Management Access Login failure: no id or password error, no privilege for access, no authentication server, or server timeout. -Management access login fail. -802.1x access login fail -WAC access login fail - MAC access login fail - MAC access login fail - Port Security violation - Fan status - Firmware upgrade via SNMP is finished - IP-MAC-Port Binding access violation - Loopback occurring and recovery - Send a trap after save - DHCP Server Screening - Gratuitous ARP - LACP Trap		FCS
System Log	1. Support IPv4/v6 log server 2. Support WAC/MAC log information 3. Support the log for storm control block mode	RFC3164	FCS
Trap/ Alarm/ Log Severity Control	Be able to divide the events into 8 severity levels and trigger corresponding logging activities based on the defined severity levels.		FCS
RMON v1	Support 4 groups (statistics, history, alarm and event)	RFC2819	FCS
RMON v2	Support Probeconfig group		FCS
sFlow	1. Support Port-based flow sampler and counter poller 2. Support max 256 leading bytes for flow sampling 3. Support sFlow version 5 4. Support IPv4/IPv6 server	RFC3176	FCS
BootP/DHCP client	Support IPv4 / IPv6	RFC951, RFC1542, 2131	FCS
DHCP Auto-configuration			FCS

DHCP Server	Support IPv6: DHCPv4 server: 1. Support max 10 pools, the max number of IP addresses per pool is 1024. 2. Support max 16 manual bindings. 3. Max number of excluded address range is 5. 4. Max number of router address is 3. 5. Max number of DNS address is 3. 6. Max number of NetBIOS address is 3. DHCPv6 server: 7. Max 16 pools and total 4096 available IPv6 addresses. Max 4096 IPv6 addresses are supported per pool, but the total IPs in 16 pools can't be more than the total number 4096. 8. Support max 64 manual bindings. 9. Supports max 4 reserved IPv6 address ranges per pool. 10. Max number of DNS address is 2.		FCS
DHCP relay	1. Support DHCP relay option 82, 60, 61 2. Option to select primary or secondary relay IP interface 5. Support IPv4/v6 DHCP relay		FCS
UDP helper			R2
Scheduling a Reload of the Software Image			R2
WOL (Wake-on-LAN)			R2
DNSv6			R2
Trap/ Alarm/ Log Severity Control	1.Send trap/log for door open, Smoke gauge, or temperature sensor 2. Turn on external air conditioner or external fan. Alarm DO (output) function pin define be as follow: Normal off: contacts connect the common pin when the relay is activated; the circuit between Normal ON pin and Common pin is disconnected when the relay is inactive. Normal on: contacts disconnect the common pin when the relay is activated; the circuit between Normal ON pin and Common pin is connected when the relay is inactive.		R2
Multiple Images			FCS
Multiple Configuration	Keep static IPIF config while reset system Keep static VLAN config while reset system		FCS
Flash file system	Applied on inserted SD card.(SD Card: Fat32/Fat16)		FCS
Port Description			FCS
Editable Login Banner	Max support 6*80 characters of editable login banner		FCS
Editable System Prompt	Max support 16 characters of editable prompt		FCS
CPU Monitoring	Allow monitoring the utilization of CPU via Web/ CLI/ SNMP		FCS
Password Recovery			FCS
Password Encryption			FCS
SNTP	Time Setting		FCS

Precision Time Protocol (PTP)	Provide precise time synchronization with grandmaster clocks. Supported when the switch is not physically stacked.	IEEE1588	FCS
	Supported when the switch is physically stacked		R2
Debug Command	Support “Show tech support” like Cisco Record exception log when device enters critical error.		FCS
Trusted Host	1. Support 10 trusted hosts		FCS
MTU Setting		RFC1191	FCS
Network Load Balancing (NLB)	Used to support Microsoft server load balancing application where multiple servers can share the same IP and MAC address. The request from clients will be forwarded to all servers, but will only be processed by one of them. 1. Network Load Balance in Layer2; max. 10 entries 2. Network Load Balance in Layer3; max. 12 entries		FCS
Greeting Message	1.Support 24 lines, each line support 80 bytes 2. Support Ctrl+V Paste hot key		FCS
OAM			
Optical Transceiver Digital Diagnostic Monitoring (DDM)	1. Comply with SFF-8472 real time access to optical transceiver operating parameters 2. Support configurable warning and auto shut down threshold for following events - Internally measured transceiver temperature - Internally measured transceiver supply voltage - Measured TX bias current in uA - Measured TX output power in mW - Measured RX received optical power in mW 3. Support trap/log for both thresholds		FCS
802.3ah Ethernet Link OAM	1. Support 802.3ah link layer remote loopback and discovery 2. 802.3ah D-Link extension: D-link Unidirectional Link Detection (DULD) 3. Support following dying gasp PDUs and traps: - Power failure - Device reboot - All fans fail		FCS
Green			
Time-based PoE	PoE ports can be turned on/off by port or system through schedule or admin control (enable/disable forever) via GUI or command.		FCS
Power Saving	1. Support power saving function on all Gigabit RJ-45 ports 2. Support 2 power saving modes - Link status mode - Cable length mode		FCS
MIB			
MIBII		RFC1213	FCS
Bridge MIB		RFC4188	FCS
SNMPv2 MIB		RFC1907	FCS
RMON MIB		RFC1757, RFC2819	FCS
RMONv2 MIB		RFC2021	FCS
Ether-like MIB		RFC1643, RFC2358, RFC2665	FCS
802.3 MAU MIB		RFC 4836(MAU)	FCS
802.1p MIB		RFC4363	FCS

IF MIB		RFC2233, RFC2863	FCS
RADIUS Authentication Client MIB		RFC2618	FCS
IGMPv3 MIB			FCS
RIPv2 MIB		RFC1724	FCS
IP Forwarding Table MIB(CIDR)		RFC4292	FCS
IPv4 Multicast Routing MIB		RFC2932	FCS
PIM MIB for IPv4		RFC2934	FCS
RADIUS Accounting Client MIB		RFC2620	FCS
Ping MIB			FCS
Trace out MIB			FCS
L2 Specific MIB			FCS
L3 Specific MIB			FCS
OSPFv2MIB		RFC1850	FCS
VRRP MIB		RFC2787	FCS
Private MIB			FCS
Entity MIB		RFC2737	FCS
ZoneDefense MIB			FCS
Standard Compliance			
IPv6 Ready Logo	IPv6 Ready Logo Phase II		FCS

2.2 Enhanced Image

VLAN			
802.1Qbb	Priority-based Flow Control(PFC) on 10G ports.		TBD
L3 Features			
IPv6 Tunneling	1. Support following tunnel type - Static - GRE - 6to4 - ISATAP 2. Support RA for ISATAP Tunnel Max 256 virtual routers	RFC3056, RFC5214	FCS
L3 Routing			
BGP	Support MD5 Authentication 1. Max peer number: 5 2. Max peer group number: 5 3. Max network entries: 256 4. Max aggregate entries: 256 5. Max AS-path access list entries:16 6. Max community list entries:64		FCS
RIPng(IPv6)			FCS
OSPFv3			FCS
BGP+			R2
L3 Multicasting			

PIM SM	**Support IPv6:** 1. Max PIM-SM neighbor: 100 2. PIM-SM multicast routing table size: 2048 (up to 1024 different groups) 3. CRP table size: 40 4. Static RP table size: 20 5. RP address table size: 40		FCS
DVMRP v3	1. Max DVMRP neighbor: 100 2. IPMC cache table size: 2048 (shared with PIM-DM) 3. DVMRP routing table size: 1024		FCS
OAM			
Cable Diagnostics	Support cable diagnostic function to check the status of connected RJ-45 cables.		FCS
Connectivity Fault Management (CFM)	1. Support 802.1ag 2. Support customer and operator/intra carrier maintenance domain levels（all MD levels (0-7). 3. Configurable maintenance level. The default customer level is 5 and the default operator level is 2 4. Support up to 256 MIPs and 128 MEPs at the same time 5. Support following functions for customer levels: - Per port and per VLAN basis MIP and MEP - LinkTrace and loopback reply for each MIP - Loopback Message (LBM) function that can generate LBM toward broadband access network - Loopback reply (LBR) function towards its peer MEP(s), in response to a unicast or multicast LBM 6. Support following functions for operator levels: - Per port and per VLAN basis MIP and MEP - Linktrace and loopback reply for each MIP - Be able to receive a LBM from its peer MEPs and initiate the associated LBR, for the MEP on the network interface - Be able to receive a LinkTrace Message (LTM) from its peer MEP and initiate the associated LinkTrace Reply (LTR) for the MEP on the network interface - Be able to receive a Continuity Check Message (CCM) from its peer MEPs and initiate the CCM, for the MEP on the network interface - Be able to initiate the LBM, LTM and CCM on a per-network interface/per-VLAN basis 7. Support minimum 10ms or 100ms CCM packet transmission -For 10ms CCM packet transmission, it needs to use H/W based CCM transmission to avoid high CPU usage . But there are some limitations: 1) not support “sender ID TLV”; 2) not support hardware “MIP” and “MIPCCM”; 3) may not support hardware “Packet statistics counters”; 8. Support user defined LBM payload with MTU up to 1,500 bytes 9. Support show function for - MIPCCM detail information - Packet statistics counters - Sender ID TLV in all PDUs - Port status TLV & interface status TLV CCM PDUs 10. Support H/W or S/W based CCM transmission 11. Be able to configure 1p priority of CFM (CCM, LTM, LBM) independently 12. Be able to enable/disable MIP LTM reply		FCS

MPLS/VPLS			
VRF	- Support 128 VRF - Multi-ARP Table - Multi-Route Table(every VRF has absolute route table) - Multi-Transport Table(every VRF has absolute table) - RIP(VRF multi-example) - OSPF(multi-example, support VRF-LITE) - BGP(support multi-address family) - VRF aware DHCP - VRF aware SNMP - VRF aware SYSlog - VRF aware AAA - VRF aware TACACS+ - VRF aware tftp		R2
MPLS Label Management	- MPLS stack levels: - Maximum number of labels: 2 One layer: 192K Two layers: inner layer:192K,outer layer: 4K - Label assign/preserve/check - Label free		R2
LDP	- Support 128 LDP neighbors - Support 400 LDP sessions - LDP basic discover mechanism - LDP expansion discover mechanism - LDP session creation and maintenance - LSP creation based on route top - Process Label mapping message - Process Label withdraw message - Process Label release message - PHP		R2
MPLS L3 VPN (MPLS / BGP VPN)	- Support 128 VPNs - VRF interface management - VPN-IPv4 route add |delete |update - VRF interface management - VRF route table size limitation - Inter-access between VPN - Inter-domain - Access Internet		R2
MPLS L2 VPN (VPWS)	- Create /delete LDP connection - Support 4K PW - Receive label mapping message from remote session - Receive label withdraw message from remote session - Receive label release message from remote session - Receive label request message from remote session - Process interface event		R2
VPLS	- VPLS neighbor discover based on BGP - VPLS LSP create /delete based on LDP - Create /delete VPLS pseudo wire - Delete MAC		R2
Standard Compliance			
MEF Certification	Comply with MEF 9 & 14 EPL, EVPL and E-LAN		R2

3. Mechanism & ID Design

3.1 Name Plate Design

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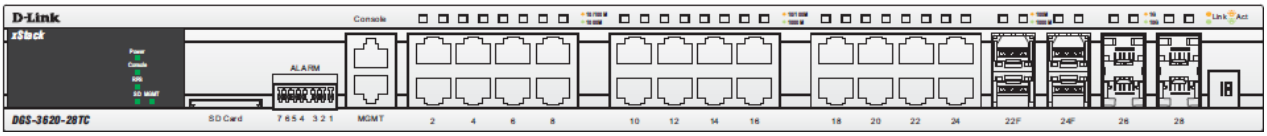

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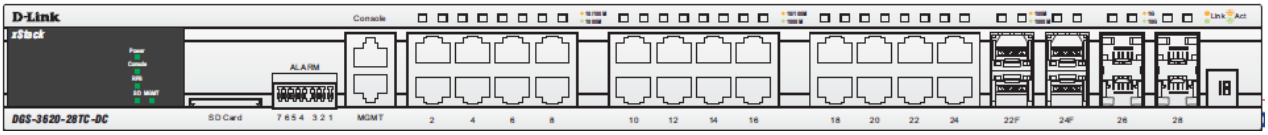

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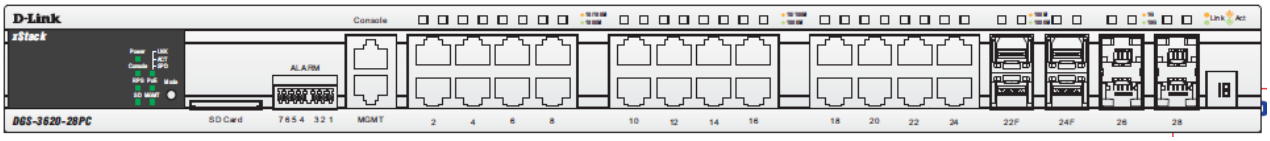

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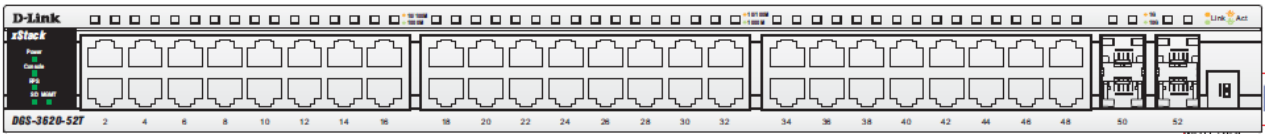

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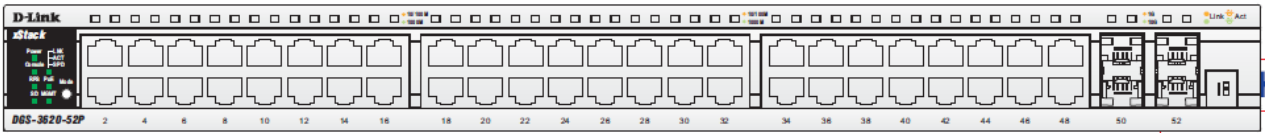

3.2 Rear Panel Design

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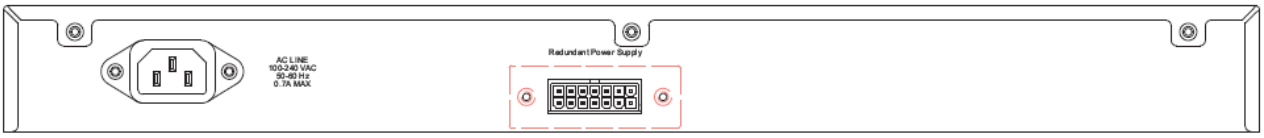

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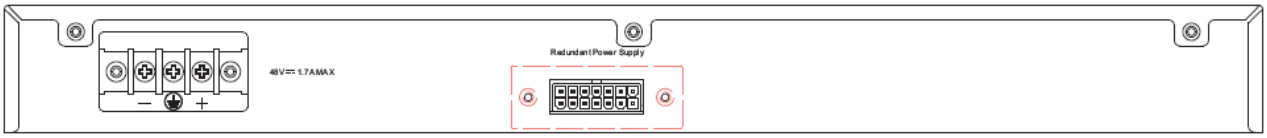

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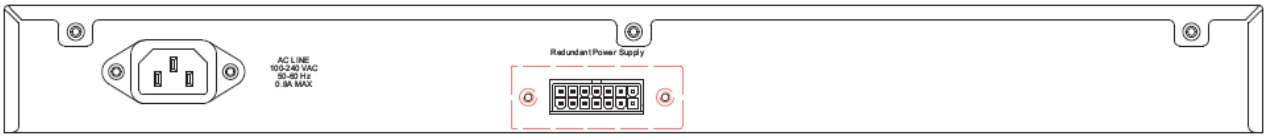

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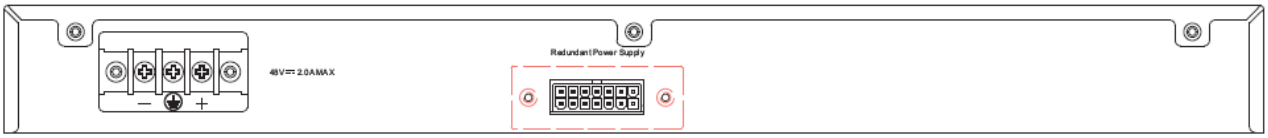

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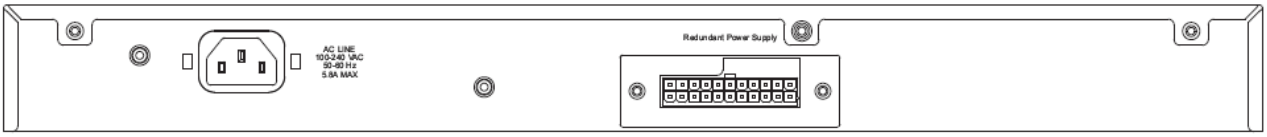

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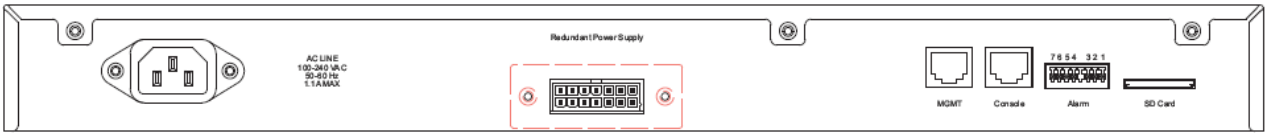

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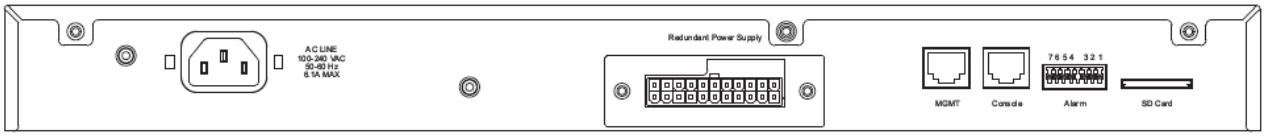

3.3 LED Indicator

Location	LED Indicative	Color	Status	Description
Per Device	**Power**	Green	Solid Light	Power On
			Light off	Power Off
	Console	Green	Solid Light	Console on
			Light off	Console off
	MGMT	Green	Solid Light	Console on
			Blinking	When there is a secure connection (or link) to 10/100Mbps
			Light off	Console off
	SD	Green	Solid Light	Plug in
			Blinking	Read/Write

			Light off	No link
		Red	Solid Light	Read/Write failed
	RPS	Green	Solid Light	RPS in using
			Light off	RPS off
			Blinking	When switch detects that RPS cable is connected
	PoE push button	(refer to DGS-3120)		
	Stacking ID	Green	Capable 1-12	When device is a stacking master, stacking ID will be 1, and when device is a stacking slave, stacking ID will be others.
LED Per 10/100/1000 Mbps Port	**Link/Act**	Green	Solid Light	When there is a secure connection (or link) to 1000Mbps Ethernet device at any of the ports.
			Blinking	When there is a secure connection (or link) to 1000Mbps device at any of the ports.
		Orange	Solid Light	When there is a secure connection (or link) to 10/100Mbps Ethernet device at any of the ports.
			Blinking	When there is a secure connection (or link) to 10/100Mbps Ethernet device at any of the ports.
		Off	Light off	No link
	PoE Mode	Green	Solid Light	Power feeding
		Orange	Solid Light	Error Condition
		Off	Light off	No Power feeding
Per SFP Port	**Link/Act**	Green	Solid Light	When there is a secure connection (or link) to 1000Mbps Ethernet device at any of the ports.
			Blinking	When there is reception or transmission (i.e. Activity--Act) of data occurring at a 1000Mbps port.
		Off	Off	No Link
SFP+ Port	**Link/Act**	Green	Solid Light	When there is a secure connection (or link) to 10G bps Ethernet device at any of the ports.
			Blinking	When there is reception or transmission (i.e. Activity--Act) of data occurring at a 10G bps port.
		Orange	Solid Light	When there is a secure connection (or link) to 1000Mbps Ethernet device at any of the ports.
			Blinking	When there is reception or transmission (i.e. Activity--Act) of data occurring at a 1000Mbps port.
		Off	Light off	Link down

3.4 Mechanical

Metal Case		
■ 19" Metal Case	☐ 11" Metal Case	☐ Others
Plastic Case		
☐ D-Link Big Size 235x162x36mm		☐ D-Link Middle Size 193x118x31mm
☐ D-Link Small Size 142x109x31mm		☐ D-Link Palm Size 104x61x28mm
☐ D-Link Mini D Size 90x82x31mm		☐ D-Link Pocket Size 80x52x27mm
☐ Others		

4. Certifications:

4.1 EMC/RF Certificates and Test Reports

	EMC Test Report	Class A	Class B	Remarks
V	CE Report (89/336/EEC, 2004/108/EC)	V		
V	FCC/IC Report (FCC CFR 47, Part 15B/ ICES-003)	V		
V	C-Tick Report	V		
V	VCCI Report	V		

	RF Test Report	Wireless	Remarks
	CE Report (R&TTE:1999/5/EC)		
	FCC/IC Report (FCC CFR 47, Part 15C, E/ RSS-210)		***FCC/IC ID**
	C-Tick Report		
	VCCI Report		

4.2 Telecom. Certificates and Test Reports

	Telecom. Test Report	Telecom.	Remarks
	CE Report (R&TTE:1999/5/EC)		
	FCC/IC Report (FCC CFR 47, Part 68)		***FCC/IC ID**
	A-Tick Report		

4.3 Safety Certificates and Test Reports

	Certifications	Standards	Remarks
V	GS Certificate/Report or LVD	EN60950-1: 2001	
V	UL/cUL Listed Mark or CSA International Mark	UL/CSA 60950-1	
V	CB Certificate/Report	IEC 60950-1: 2001	
	- Spring (Singapore)		
	- A-Tick (AS/NZ)		
	- Gost-R (Russia)		
	Others		

4.4 Reliability Test Reports

No.	Required	Test Items	Standards	Procedure
1.	V	MTBF of Prediction Report	Telcordia SR-332, Issue 2	N/A
2.	V	MTBF of Endurance test Report	D-Link SPEC	N/A
3.		MTBF of Demonstration test Report	D-Link SPEC	PSD-002-01004
4.	V	Free Fall(Drop)Test Report	IEC 60068-2-32	PSD-002-01005
5.	V	Random Vibration Test Report	IEC 60068-2-34: 1993	N/A
6.	V	Storage Test Report of *Low Temp. *High Temp. / Low Humidity *High Temp. / High Humidity	IEC 60068-2-48	N/A
7.	V	Operation Cold(low temperature) Test	IEC 60068-2-1	N/A
8.	V	Operation Dry Heat(High	IEC 60068-2-2	N/A

		temperature) Test		
9.	**V**	Operation Temperature Cycles Test	IEC 60068-2-14	N/A
10.	**V**	Thermal Shock Test	IEC 60068-2-14	N/A
11.	**V**	Damp Heat Steady State test	IEC 60068-2-78	N/A
12.	**V**	Thermal Profile Test	D-Link SPEC	PSD-002-01012 PSD-002-01012-1
13.	**V**	ESD Simulation Test report	IEC 61000-4-2	N/A
14.	**V**	High / Low Temperature Start Test	D-Link SPEC	N/A
15.	**V**	Parts on/off & Insert/pulling Test	D-Link SPEC	N/A
16.	**V**	Acoustic Noise test	D-Link SPEC DIN EN 27779 & ISO 7779	PSD-002-01016

4.5 RoHS Requirement

4.5.1 Level A of Substance limitation requirements table (for appliances & accessories)

Level	D-Link No.	Description		Limitation/ ppm
A	**A1**	鎘及其化合物	Cadmium/ Cadmium Compounds	**80**
	A2	六價鉻及其化合物	Hexavalent Chromium/ Hexavalent Chromium Compounds	**800**
	A3	鉛及其化合物	Lead/ Lead Compounds	**800**
	A4	汞及其化合物	Mercury/ Mercury Compounds	**800**
	A5	聚溴聯苯	Polybrominated Biphenyls (PBBs)	**800**
	A6	聚溴聯苯醚	Polybrominated Diphenylethers (PBDEs)	**800**

4.5.2 Level A of Substance limitation requirements table (for Packing)

Level	D-Link No.	Description		Limitation/ ppm
A	**A1 ~ A4**	鎘，六價鉻，鉛，汞	Cadmium Chromium VI, Lead and Mercury compounds	**100**

4.5.3 Level A of Substance limitation requirements table (for battery)

Level	D-Link No.	Description		Limitation/ ppm
A	**A1**	鎘及其化合物	Cadmium/ Cadmium Compounds(Cd)	**2500** **(0.025%)**
	A3	鉛及其化合物	Lead/ Lead Compounds(Pd)	**400** **(0.4%)**
	A4	汞及其化合物	Mercury/ Mercury Compounds(Hg)	**5**